ENRICHED ANTIGEN-SPECIFIC T-CELLS, AND RELATED THERAPEUTIC AND PROPHYLACTIC COMPOSITIONS AND METHODS

Abstract of the Invention

T-cell responses are initiated via contact with MHC/peptide complexes on antigen presenting cells (APCs). The fate of these complexes, however, is unknown. Here, using live APCs expressing MHC class I molecules fused with green-fluorescent protein, we show that peptide-specific T-cell/APC interaction induces clusters of MHC I molecules to congregate within minutes at the contact site; thereafter, these MHC I clusters are acquired by T-cells in small aggregates. We further demonstrate that acquisition of MHC I by T-cells correlates with TCR down regulation and the APC-derived MHC I molecules are endocytosed and degraded by T-cells. These data suggest a novel mechanism by which TCR recognition of MHC/peptide complexes can be curtailed by internalization of MHC molecules by T-cells.